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CURRENT LITERATURE

BOOK REVIEWS

Bacteriology, general and special

Although bacteriology in the past decade or more has developed to such an extent as to warrant being considered more broadly than merely as an *Anhang* to medicine, yet the texts prepared for the use of biological students have been written, in the main, from a comparatively restricted point of view, usually being designed for medical students. Naturally, the limitations of time demand that the student in technical courses, such as medicine, shall receive specific instruction in the subject-matter relating to the activities of those organisms that are of especial moment to him; but in our larger universities the time is ripe for the presentation of the subject of bacteriology from the standpoint of the student of general science. A course of training in general bacteriology is as essential in supplementing a general course in biology as is general chemistry. The works of DE BARY and FISCHER served as a suitable foundation in their day for the treatment of bacteria from the biologic viewpoint, and there is great need that such works be brought down to date.

Dr. JORDAN, the author of a recent textbook of general bacteriology, has had an unusual opportunity, by training and position, to develop a strong course in this subject; yet one cannot help feeling that even in a university atmosphere, the needs of the medical student were uppermost in his mind in the preparation of his book. And this impression prevails in spite of the fact that the volume purports to cover the general field, and attempts to present the "perspective of the subject, with emphasis on general rather than on special questions." A casual inspection of the book gives the impression that it is in the main medical, but a more careful analysis shows that much more satisfactory treatment of the non-medical phases is given than is generally the case. About 70 of the 540 pages of text are devoted to the morphology and physiology of the bacteria. The addition of chapters on organisms of the soil, air, and water, as well as of milk and its products, and on bacterial plant diseases, widens the scope of the work, but it is very evident that the treatment in these special chapters is no so well balanced as is the presentation of the animal pathogens. Indeed, the work, as a whole, is so largely medical in its aspects that we feel that there is yet to be written a text on general bacteriology that will fairly present these organisms from the biological point of view. For example, it would seem that a subject of such biological and historical importance as fermentation should

¹ JORDAN, EDWIN O., A textbook of general bacteriology. 8vo. pp. 557. *f*gs. 163. Philadelphia: W. B. Saunders Co. 1908. \$3.00.

receive adequate treatment. Bacteriology will never attain its true position as a member of the sisterhood of biological sciences until some one of its devotees will sacrifice his time to prepare a comprehensive text that presents the bacteria in their relations as living things, rather than as capable of affecting prejudicially or otherwise man and beast. Special fields may well receive special treatment, with such summary of general matter as may be absolutely necessary to enable the special class of students to handle the subject.

While the volume fails somewhat to meet our anticipations and is hardly adequate from the biologic point of view, the admirable presentation of the medical part of the volume shows careful work. The addition of chapters on the pathogenic Trichomycetes, Blastomycetes, and Hyphomycetes, as well as the disease-producing protozoa and diseases of unknown etiology, will be helpful to the medical student in correlating many of the recent advances in microbiology. With the rapid widening of the scope of study relating to the microparasites, we shall soon be driven to the adoption of the French term "microbiology," rather than the more restricted German title of bacteriology.—H. L. RUSSELL.

The eight years which have elapsed since the publication of the first edition of CONN'S *Agricultural bacteriology* have been years of rapid advancement in all lines of bacteriological activity. A second edition² finds much new material to be incorporated.

The author in his preface admits that the limitations of the term agricultural bacteriology are puzzling. The farmer has most of the city problems of sanitation in miniature and many more in economic bacteriology. The prevention of infectious disease in man and animals; farm engineering with its problems of sanitation, water supply, and sewage disposal; the function of bacteria in the production of butter and cheese; the conservation of the soil by encouraging the growth of beneficial bacteria; the part which bacteria play in the curing and preparation of food for man and animal—these problems range over practically the whole domain of bacteriology. A text which attempts to cover such a field in a little more than three hundred pages must of necessity be an outline merely and not an exhaustive treatment of the subject. Each chapter could be easily elaborated into a volume.

In make-up the volume has improved. The pages have been reduced from 412 to 331 in number. The illustrations have been numbered and many old ones replaced by better. Part, at least, of the decrease in size is due to the elimination of the references to literature found at the end of each chapter in the first edition. The text has been entirely rewritten, though the main divisions have remained as before. The revision has resulted in increased conciseness and clearness of expression. The discussion of bacteria and the nitrogen problem is excellent for use in an agricultural high school, but seems rather inadequate as a presentation of the subject to college students with two or more years of training in chemistry

² CONN, H. W., *Agricultural bacteriology*. Second edition. pp. x+331. *figs.* 64. Philadelphia: P. Blakiston's Son and Co. 1909. \$2.00.

and biology. A chapter on bacteria and soil minerals has been added. Tuberculosis is the only disease which is treated at length. The treatment of acquired immunity is misleading, in that vaccination is the only method of conferring immunity which is discussed, and the natural inference is that diphtheria and other diseases are thus treated. Antitoxins are not mentioned. A part of a chapter on fungus diseases of plants shows plainly the effect of too much condensation. The characterization of wilts, rusts, etc., on page 295 is unscientific and inaccurate. The student can gain little by a mere list of names of hosts and parasites such as this chapter contains. There is much that might be eliminated to make room for more adequate treatment of other subjects. As an introduction to the subject for the general reader or for the high-school student the volume is excellent; as a college text, however, it seems inadequate.—R. E. BUCHANAN.

NOTES FOR STUDENTS

Current taxonomic literature.—R. HÖROLD (Bot. Jahrb. **42**:251-334. 1909) presents a synoptical revision of the American Thibaudieae and carefully tabulates their geographical distribution. One monotypic genus (*Englerodoxa*) and 67 species referred to 17 genera are published as new to science.—G. MASSEE (Annals of Botany **23**:336. 1909) has published a new genus (*Gibsonia*) of the Ascomycetes; the new fungus was found growing in a drain in North Lancashire, England.—E. A. FINET (Bull. Soc. Bot. Fr. IV. **9**:97-104. pls. 1, 2. 1909) describes several new or noteworthy species of Orchidaceae, some of which are American.—L. A. DODE (*ibid.* 232-234) has published a new genus (*Orias*) of the Lythraceae from China.—N. L. GARDNER (Univ. Cal. Pub. Bot. **3**:371-375. pl. 14. 1909), under the title "New Chlorophyceae from California," has published two new monotypic genera (*Endophyton* and *Pseudodictyon*); a new species of *Ulvea* is also proposed.—O. TSCHOURINA (Bull. Soc. Bot. Genève II. **1**:98-101. 1909) has published a new genus (*Astrocladium*) of the Palmellaceae. The new alga was discovered in the vicinity of Geneva, Switzerland, and is represented by a single known species.—W. BIALOSUKNIA (*ibid.* 101-104) proposes a new genus (*Diplosphaera*) of the Pleurococcaceae, to which is referred but one species. The alga was isolated from the lichen, *Lecanora tartarea*, and developed as a pure culture.—G. O. MALME (*ibid.* 182) records a new species of *Xyris* from Brazil.—V. CALESTANI (Nuovo Giorn. Bot. Ital. N. S. **15**:355-390. 1908), under the title "Sulla classificazione delle crocifere italiane," recognizes 31 genera for Italy, including one genus (*Euxena*) published as new to science.—R. PAMPANINI (Bull. Soc. Bot. Ital. **1908**:132-134) describes a new species and variety of *Tithonia* indigenous to Mexico.—K. K. MACKENZIE (Muhlenbergia **5**:53-58. 1909) lists several species of *Carex* collected by A. A. HELLER in Nevada in 1908 and describes two new species.—P. B. KENNEDY (*ibid.* 58-61. pl. 2) in continuation of his "Studies in Trifolium" describes and illustrates a new species from Oregon.—W. FAWCETT and A. B. RENDLE (Journ. Botany **47**:122-129. 1909) in continuation of their studies on Jamaica orchids have published 13 new species belonging to various genera and one new genus (*Neo-urbania*); the new genus is based on